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PROPOSED BRIEFING FOR CONGRESSIONAL COMMITTEE

on

"THE SOVIET GUIDED MISSILE PROGRAM"*

INTRODUCTION

1. The purpose of this presentation is to furnish a summary of the US intelligence community's latest estimates of Soviet guided missile capabilities and probable programs. The intelligence community includes the intelligence organizations of the State Department, Army, Navy, Air Force, the Joint Chiefs of Staff, Atomic Energy Commission, Federal Bureau of Investigation, and the Central Intelligence Agency, which has a coordinating responsibility in the field of national intelligence. Inasmuch as our intelligence community is responsible for producing intelligence on foreign powers and is neither responsible nor qualified to evaluate comparable US programs, this presentation will be limited to a discussion of our best intelligence assessment of the Soviet guided missile program. The data for this briefing are based on our most recent community estimates.

BACKGROUND

2. Although the USSR had no known guided missile program at the close of World War II, we have conclusive evidence of a great postwar Soviet

* The Assistant Director, Federal Bureau of Investigation, abstains, the subject being outside his jurisdiction.

interest in guided missiles, many strong indications of a large and active research and development program, and firm evidence of the present operational deployment of a surface-to-air missile defense system around Moscow. Unfortunately, the very effective security surrounding the entire Soviet military complex, and particularly around sensitive areas such as their guided missile program, hampers our gathering of intelligence. This is especially true on the details of specific guided missile systems. Therefore, in order to estimate these specific Soviet missile capabilities in a field where positive intelligence is not always available, we are forced to develop our estimates from: (a) all available evidence of Soviet missile activity including their exploitation of the German missile experience and personnel; (b) general knowledge of the "state-of-the-art" in the guided missile field in the US; and (c) known and estimated Soviet capabilities in related fields. Our estimates of the intended scope of the Soviet program, as contrasted to capabilities, are based largely on probable Soviet military requirements for missiles in relation to other military weapons systems.

3. Let me enlarge somewhat upon what is meant by "available evidence of Soviet missile activity". Immediately after World War II, the Soviets initiated a thorough and systematic exploitation of German guided missiles and missile personalities, facilities, and equipment. From this exploitation, we believe the Soviets obtained four general results: (a) the acquisition of operational and prototype missiles, research and production facilities and equipment, and approximately 400 German missile specialists; (b) completed studies of German achievements prior to the war's end--1945; (c) the familiarization of Soviet personnel with German techniques of research, development, testing, and production of missiles and components;

and (d) further technical studies and limited hardware development performed by German scientists.

4. Most of the German missile scientists and technicians taken to the USSR have been returned to Germany. We have been, and are continuing to, thoroughly and systematically exploit these valuable sources of technical intelligence. Although we cannot accurately assess the degree to which the German missile contributions have been incorporated in the native Soviet guided missile program, we believe that by 1948 the USSR had raised the level of its guided missile knowledge to that which existed in Germany at the close of World War II. We therefore estimate that a concerted and continuous native Soviet guided missile research and development program could have begun in 1948.

5. This and valuable information from other of our sources, together with our knowledge of Soviet capabilities in related fields such as electronics, aerodynamics, propulsion, and nuclear energy, are used in our assessment of Soviet guided missile capabilities and probable programs.

6. The dates given in this briefing are the earliest probable years during which one or more missiles could have been serially produced and placed in the hands of trained personnel of one operational unit, thus constituting a limited capability for operational employment. It should be noted that an additional period of time, varying from a few months to several years depending upon the missile system, would be required before we are faced with a significant threat in terms of actual employment in a general war. Our current estimate is based on the judgement that the USSR does not now intend to initiate general war deliberately, and is not now

preparing for general war as of any particular future date. Our estimate on which this briefing is based covers the period through 1966, although, of course, estimates as to future years are subject to revision as new intelligence becomes available.

## SOVIET GUIDED MISSILE CAPABILITIES

### GENERAL CONCLUSIONS

7. We estimate that the Soviet guided missile program is extensive and enjoys a very high priority.

8. We believe that the USSR has the native scientific resources and capabilities to develop during this period advanced types of guided missile systems, in all categories for which it has military requirements.

9. We estimate that the USSR has the industrial base and related industrial experience to series produce the missile systems it will develop during this period. However, in view of competing demands, the limited availability of electronic equipment will seriously restrict the extent and variety of Soviet guided missile production until about 1958. Thereafter, expanding electronics production will probably make this restriction much less severe.

10. In consonance with missions to be accomplished, we estimate that the USSR has requirements for various sizes of nuclear, high explosive (HE), and chemical (CW) warheads, and has the capability to develop them on time scales consistent with the missiles in which they would be employed. In view of competing demands, the availability of fissionable materials will impose limitations on the extent of Soviet nuclear warhead production between now and 1966.

SPECIFIC MISSILE CAPABILITIES

11. The following dates for specific missile capabilities give the earliest probable years in which we estimate the threat could begin, but, as previously indicated, an additional period of time, varying with missile type, would be required for these missiles to become available in quantity.

12. Surface-to-Air Missiles. We estimate that surface-to-air missile systems have one of the highest priorities among current Soviet military programs. At Moscow, an extensive system of surface-to-air missile sites has been constructed, and all sites are probably now operational. This system can probably direct a very high rate of fire against multiple targets at maximum altitudes of about 60,000 feet and maximum horizontal ranges of about 25 nautical miles.

13. During the period 1958-1961, surface-to-air systems with increased range and altitude capabilities for static defense of critical areas, and with low and high altitude capabilities for defense of static targets, field forces, and naval vessels, could probably become available for operational employment. Some time between 1963 and 1966, the USSR could probably have in operation a surface-to-air system of some capability against the ICBM.

14. We estimate that series production of surface-to-air guided missiles is now underway in the USSR, and that it will probably produce such missiles in large quantities. Nuclear warheads could now be incorporated into a limited number of surface-to-air missiles. We estimate that some percentage of surface-to-air missiles will be so equipped between now and 1966.

15. Air-to-Air Missiles. Despite a lack of significant intelligence, we estimate that the USSR has pursued the development of air-to-air missiles, and that it could now have in operational use a 2-3 nautical mile range missile capable of tail-cone attacks in good weather. It is probable that the USSR could have a 5 nautical mile all-weather missile operational in 1958 and a 15-20 nautical mile all-weather missile, capable of employing a nuclear warhead in 1960.

16. Air-to-Surface Missiles. In 1955 the USSR could probably have had a 20 nautical mile subsonic air-to-surface missile available for operational use. In 1956-1957 a 55 nautical mile subsonic missile could probably be available, and there is some evidence that such a missile has reached at least final flight test stage. A 55 nautical mile supersonic missile could probably be available in 1958. These missiles, designed primarily as anti-ship weapons, could also be employed against isolated and well-defined radar targets on land. In 1961, a 100 nautical mile supersonic missile could probably be available for employment by heavy bombers. Each of these missile types could employ nuclear warheads.

16. Surface-to-Surface Ballistic Missiles with up to 350 Nautical Miles Range. There is considerable evidence of Soviet development of short-range surface-to-surface missiles, and we estimate that the USSR could probably have had available for operational use in 1954 ballistic missiles with the following maximum ranges: 75 nautical miles, 175 200 nautical miles, and 350 nautical miles. These types could be equipped with nuclear warheads. However, the USSR would probably consider CW warheads desirable for certain specific purposes, and might employ HE in the two shorter-range types.

18. Surface-to-Surface Ballistic Missiles with 700-1600 Nautical Miles Range. Evidence on Soviet development programs leads us to estimate that the USSR could probably have had a 700 nautical mile maximum range ballistic missile for operational use in 1956. We have firm evidence that in 1949 the USSR was interested in a 1600 nautical mile intermediate range ballistic missile (IRBM) and we believe it is a logical step in the Soviet development program. We estimate that the USSR is developing an IRBM, and that it could probably have such a missile in operation in 1959. Both these missile types would probably employ nuclear warheads. We believe the USSR would rapidly acquire a considerable number of both the 700 nautical mile and the 1600 nautical mile missiles.

19. Intercontinental Ballistic Missiles with 5500 Nautical Miles Range. We have no direct evidence that the USSR is developing an ICBM, but we believe its development has probably been a high priority goal of the Soviet ballistic missile program. We estimate that the USSR could probably have a 5500 nautical mile ICBM ready for operational use in 1960-1961. We believe that the USSR will seek to acquire a considerable number of ICBM's with nuclear warheads as rapidly as possible.

20. Submarine-launched Surface-to-Surface Missiles. We believe the USSR would probably have developed cruise-type missiles initially, and there is some evidence pointing to the existence of Soviet submarines equipped to carry such missiles. The USSR could probably have had in operation in 1955 a subsonic turbojet missile capable of a maximum range of 500 nautical miles, and a supersonic missile capable of this range could

probably be in operation in 1957. A supersonic cruise-type missile capable of rangesup to 1000 nautical miles could probably be operational in 1962. These missile types would require nuclear warheads. With a vigorous program, the USSR might achieve an operational submarine-launched IRBM system sometime during the period 1964-1966.

21. Earth Satellite Vehicle. The USSR will probably make a major effort to be the first country to orbit an earth satellite. We believe that the USSR has the capability of orbiting, in 1957, a satellite vehicle which could acquire scientific information and data of limited military value. A satellite vehicle possessing substantial reconnaissance capabilities of military value could probably be orbited in the period 1963-1965.

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